OPERATING INSTRUCTIONS for the

ALLEN

MODELS H-70 and H-80 OIL CHANGERS

ALLEN EQUIPMENT CORRECTLY OPERATED

MEANS MORE SATISFIED CUSTOMERS

ALLEN ELECTRIC and EQUIPMENT COMPANY • KALAMAZOO, MICHIGAN

PRICE 25 CENTS

WARRANTY

Allen Equipment is warranted to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months after date of delivery to the original using purchaser.

Equipment found defective within warranty, and returned to our Factory or Authorized Field Service Station, will be repaired no-charge and returned by collect transportation.

WARRANTY PROCEDURE

Warranty adjustments are contingent upon the following:

(a) Your having previously mailed to the factory (at the time of purchase) the Warranty Card which accompanied the equipment.

(b) Your entering complete information on the Repair Card taken from the Instruction Book. This card must accompany the equipment when it is returned for warranty repair.

SERVICE PROCEDURE

In the event service is required, contact the Allen Wholesaler immediately from whom purchase was made for assistance. If necessary to return equipment for repair, furnish a full description of the trouble and give the model and serial number for identification.

REPLACEMENT PARTS

Replacement Parts may be obtained by ordering from your Allen Wholesaler. Part number for Replacement Parts may be found in the back of the Instruction Manual.

Always specify model and serial number of the equipment, as well as voltage and cycles, as indicated on the equipment name plate when ordering parts.

ALLEN ELECTRIC AND EQUIPMENT COMPANY
2101-2117 North Pitcher Street
KALAMAZOO, 13F, MICHIGAN, U.S.A.

FORM NO. 503 Printed in U.S.A.

CARE AND MAINTENANCE OF ELECTRICAL EQUIPMENT

1. DO NOT allow petroleum products, acids or alkalies, to come in contact with painted surfaces or plastic components.

2. Use a clean soft cloth for a DAILY dust cloth.

3. PLASTIC PANELS, LEADS AND SOCKS should be cleaned with MILD SOAP AND WATER.

4. SMALL SCRATCHES can sometimes be removed from plastic with rouge.

5. CORRODED TERMINALS can be cleaned with a solution of baking soda and water.

6. HEAT, generated in leads and clips, which becomes more than warm to the touch is a result of a poor connection and will result in an extra load being placed on the unit.

7. LARGE ranges have been placed on meters for heavy loads, SMALL ranges for finer reading. Always select the range large enough for the job, or damage will result.

8. IN MAKING ELECTRICAL CONNECTIONS, always watch the meter when you cause the current to flow; don't overload the meter. Use the proper shunt.

9. MOISTURE is second only to grease-and-dirt in shortening the life of electrical equipment. One of the less obvious ways in which moisture can damage equipment is to store in a non-heated area. Moisture can cause meters to stick, transformers to short, insulation and condensers to deteriorate.

10. METERS REQUIRING A POWER SUPPLY. A.C. or D.C. current may be required. It may be of a high or low voltage. Exercise caution in connection units to proper voltage source.

11. POWER TIMING LAMP. Its life will be greatly lengthened if disconnected when not in use.

12. POLARITY. Care should be exercised to see that units are not connected in reverse polarity.

13. In most cases, when units have been subjected to materials used in fire extinguishers, they may be considered beyond repair in making insurance adjustment.

14. SIX VOLT PLUG-IN RECEPTACLE UNITS will work better after a small amount of powdered graphite has been applied.

15. FANS. Units having a fan for cooling purposes cannot function well if covered, as air flow is restricted.

16. METERS exposed to the sun's rays for long periods of time will fade.

17. GROWLERS should not be turned "ON" unless first an armature has been placed into position to test.

18. UNITS USING FLASHLIGHT BATTERIES should be turned to the "OFF" position when not in use. When the batteries become discharged they should be removed at once, or damage will result.

19. IN EACH INSTANCE, REFER TO THE INSTRUCTION MANUAL BEFORE ATTEMPTING TO OPERATE. MINOR CHANGES HAVE SOMETIMES BEEN MADE, AND NEW MODELS MAY OPERATE DIFFERENTLY THAN PREVIOUS ONES.

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OPERATING INSTRUCTIONS

FOR THE

ALLEN H-70 and H-80 KWIK-SERV OIL CHANGERS

CONTENTS

PRICE
25 CENTS

ALLEN ELECTRIC AND EQUIPMENT COMPANY
MANUFACTURERS OF TUNE-UP, BATTERY, ELECTRICAL AND WELDING EQUIPMENT
2101-2117 NORTH PITCHER STREET
KALAMAZOO 13F, MICHIGAN, U. S. A.

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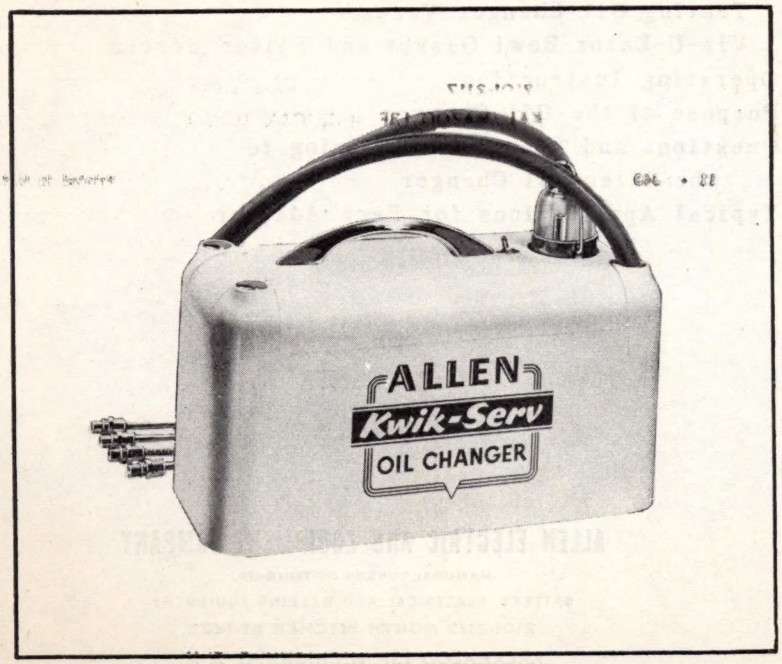
THE MODEL H-80 STANDARD KWIK-SERV OIL CHANGER



THE MODEL H-70 PORTABLE KWIK-SERV OIL CHANGER

THE MODELS H-70 AND H-80 KWIK-SERV OIL CHANGERS

PURPOSE OF THE OIL CHANGER

The Allen Models H-70 and H-80 Kwik-Serv Oil Changers are designed to DRAIN the crankcase quickly by the simple and convenient method of withdrawing the oil through the dip-stick hole of the engine by means of a motor driven gear pump. This "over-the-fender" method eliminates the time consuming use of "lifts" or drain pits and the removal of the drain plug.

The glass VIZ-U-LATOR bowl on both the Models H-70 and H-80 Oil Changers show the condition of the oil being removed from the crankcase, thus showing the need of oil filter cartridge replacements and flushing the engine.

The Model H-80 is a cabinet model containing a five gallon scavenger tank for the old oil removed from the engine crankcase, and a gauge to show when the sump tank is full. The sump tank is emptied when full by means of a switch which reverses the pump action.

The Model H-70 is a portable model for pumping oil from the engine crankcase directly into a used oil container.

DIP-STICK HOLE ADAPTERS

Oil is removed through the dip-stick hole in the engine by inserting one of the four dip-stick adapters furnished with the Oil Changer. The two round rigid adapters are suitable for most engines. One of the rigid adapters is 1/4" in diameter and the other is 5/16" in diameter. Always use the 5/16" whenever possible as oil will be drained quickest when using the largest adapter. The oblong shaped adapter is used on 1935-37 Fords, which have an oblong shaped dip-stick hole. The round flexible adapter is furnished for use on engines where the location of the dip-stick hole makes it impossible to use a straight adapter. These adapters will fit most of the conventional engine dip-stick holes. For further information, see the typical application for various cars listed elsewhere in this manual.

CONNECT TO POWER

1. Before connecting line cord to source of power, always turn switch to OFF position.

2. Connect the line cord and plug into a receptacle of the voltage and frequency as specified on the Oil Changer name plate. DO NOT connect to D.C.

DRAINING PROCEDURE

DRAIN THE CRANKCASE ONLY AFTER THE ENGINE HAS BEEN HEATED TO NORMAL OPERATING TEMPERATURE. THE BENEFIT OF DRAINING IS TO A LARGE EXTENT LOST IF THE CRANKCASE IS DRAINED WHEN THE ENGINE IS COLD, AS SOME SUSPENDED FOREIGN MATTER WILL CLING TO THE SIDES OF THE OIL PAN AND WILL NOT DRAIN OUT READILY WITH SLOWER MOVING COLD OIL.

DRAINING PROCEDURE - (CONTINUED)

1. Turn switch to OFF position.

2. Attach the proper snap-on nozzle dip-stick adapter to the DRAIN hose, and insert adapter into the engine dip-stick hole. Make certain that the adapter goes all the way down to the bottom of crankcase, and remains in that position during the draining operation. On some engines, the dip-stick hole and the filler hole are one and the same.

3. The Model H-70 EMPTY hose must be inserted into a suitable storage drum to store the oil as it is removed from the engine crankcase.

   A gauge on the Model H-80 is connected to a float in the sump tank. When the sump tank approaches full, a RED band will appear on the gauge dial followed by the word FULL. After the RED band appears, there is still enough reserve capacity in the tank to complete draining the crankcase.

4. Turn switch to the ON or DRAIN position. This will pump the engine crankcase oil through the VIZ-U-LATOR filter bowl and into the five gallon SUMP TANK in the base of the Model H-80 Oil Changer cabinet, or through the EMPTY hose on the portable Model H-70.

5. When the oil stops flowing into the VIZ-U-LATOR bowl, turn switch to OFF position and remove the dip-stick adapter.

6. Add new oil through the engine FILLER pipe and check level with the oil level measuring stick.

FLUSHING PROCEDURE

1. The old motor oil is removed and the flushing oil poured into the engine crankcase, in the same manner as outlined under DRAINING PROCEDURE.

2. Operate the engine for a few minutes to allow the flushing oil to circulate

3. Remove the flushing oil from the engine crankcase and refill with new oil, as outlined under DRAINING PROCEDURE.

DRAINING THE MODEL H-80 SUMP TANK

THE OIL IN THE SUMP TANK SHOULD BE AT 70°F. OR WARMER. IF COLDER, UNIT SHOULD BE MOVED TO A WARM PLACE TO ALLOW FREE FLOW OF THE OIL BEFORE DRAINING FROM THE SUMP TANK.

1. The gauge on the Oil Changer will show a RED band followed by the word full when the sump tank becomes nearly full.

2. To empty the sump tank, REMOVE THE DIP-STICK ADAPTER FROM THE DRAIN HOSE and insert the hose into a suitable oil storage drum.

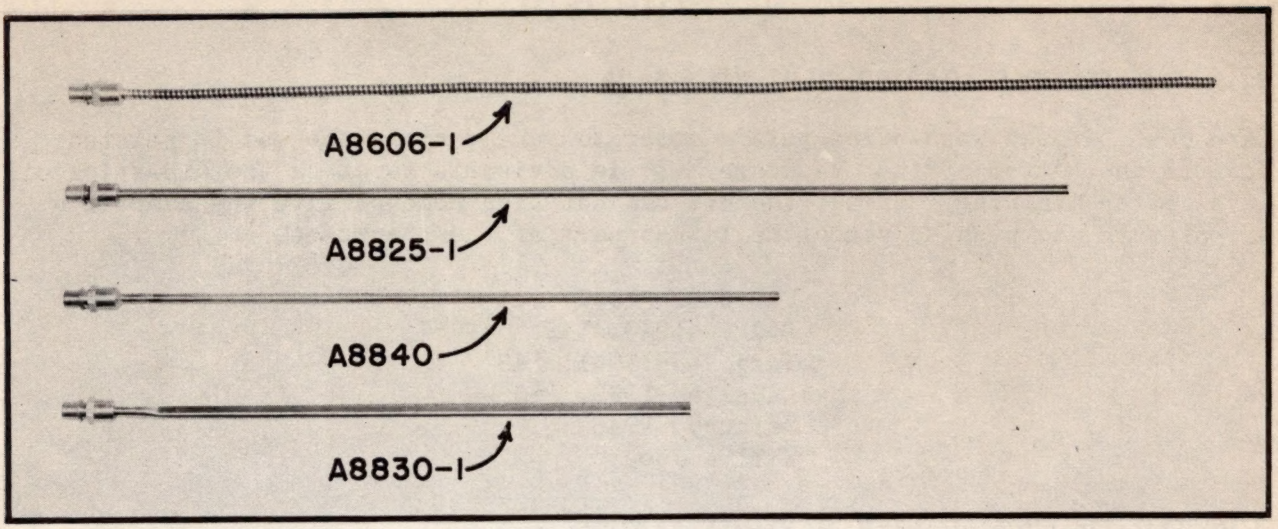
3. Push up on the SAFETY STOP, located above the switch which will enable the switch to be turned to the EMPTY position.

4. Turn switch to the EMPTY position.

5. When the SUMP tank is empty turn switch to the OFF position.

6. Replace the DRAIN HOSE in the cabinet.

TYPICAL APPLICATION FOR EACH ADAPTER



DIP-STICK ADAPTERS

DIP-STICK ADAPTERS

The four Adapters supplied with the Oil Changer will accommodate most passenger cars and trucks. The following lists show several of the typical uses for each Adapter.

5/16" O.D. ROUND ADAPTER, PART NO. A8825-1

This adapter is the most universally used and will accommodate more than 80% of the jobs.

DeSoto 1946
Ford - 6 1949
Hudson 1941, '49
Mercury 1949
Oldsmobile 1948, '49
Plymouth 1948
Pontiac 1930, '37, '48
Studebaker Champion 1947

1/4" O.D. ROUND ADAPTER, PART NO. A8840

This adapter is used in engines which have a small dip-stick hole.

Buick 1937
* Chevrolet 1933, '34, '39, '47, '49
Ford, Series 60, 1937, '40
Ford, Model A, All Models
Frazer 1947, '48, '49
Kaiser 1947, '48, '49
Pontiac 1949

* Give the adapter a slight turn and push to pass by a small obstruction about 1/2 inch above bottom of crankcase.

TYPICAL APPLICATION FOR EACH ADAPTER

(CONTINUED)

5/16" O.D. FLEXIBLE ADAPTER, PART NO. A8606-I

Care must be used when using this adapter to make certain the end is pointed down to the bottom of the crankcase. It is advisable to check the dip-stick oil level after draining. If all the oil has not been removed give the adapter a slight turn and push to reach the lowest part of the crankcase.

Chrysler 1939
Dodge 1940, '42
Ford V-8 1941, '49
LaSalle 1939, '40
Mercury 1946
Willys Jeep

3/16" O.D. OBLONG ADAPTER, PART NO. A8830-I

This adapter is used on the Series 85 V-8 1935, '40 Ford. Insert the adapter in the dip-stick hole before attaching the drain hose. The dip-stick hole is round at the top and oblong as it enters the crankcase. Therefore, after inserting the dip-stick in the hole, turn it so that its flat portion is parallel to the engine. Then, push all the way to the bottom of the crankcase.

OPERATING INSTRUCTIONS

1. The engine should be at operating temperature before draining. The oil must be hot for fast oil changing.

2. In cold weather, new oil should be kept inside the station where it is warm.

3. In cold weather, old oil in the Oil Changer sump tank should be allowed to become warm before draining, by placing the Oil Changer inside the station where it is warm.

4. Always use the largest diameter dip-stick adapter which will go into the engine. Use the flexible adapter only as a last resort where the engine will not accommodate the largest straight adapter.

5. Recommend a flush job where sludge in the crankcase is evident by slow Oil Changer performance. Recommend that the crankcase drain pan be removed and cleaned where excessive sludge is noted at end of dip-stick adapter.

IMPORTANT INFORMATION

PUMPING TIME IN RELATION TO OIL VISCOSITY

Pumping time is greatly affected by the ability of the oil to flow. The ability of the oil to flow is rated in viscosity. The lower the viscosity, the lower the SAE number of the oil. SAE 20 oil, for example, has a lower viscosity than SAE 30 oil at a given temperature. Therefore, SAE 20 oil will flow easier or faster than SAE 30 oil at a given temperature. For example, Allen Oil Changers will pump SAE 20 oil at the rate of 1 quart per minute when the oil temperature is 80°F. and SAE 30 oil at the same temperature will require approximately 2.3 minutes or over twice the pumping time required to pump SAE 20 oil.

IMPORTANT INFORMATION - (CONTINUED)

PUMPING TIME IN RELATION TO OIL TEMPERATURE

Viscosity changes in relation to the temperature of the oil. For example, SAE 10 oil at 40°F. has about the same viscosity as SAE 30 oil at 70°F. The higher the temperature of the oil, the lower is its viscosity and therefore less time is required to pump the oil. This fact can be appreciated by the following data obtained by pumping SAE 20 oil at various temperatures through the 1/4" dip-stick adapter.

Temperature F°	Pumping Time Per Quart
120°	.3 Minutes
110°	.4
100°	.52
90°	.7
80°	1.0
70°	1.44
60°	2.3
54°	3.0
50°	4.0

Note that lowering the temperature from 120° to 54° changed the pumping time per quart from .3 minutes to 3 minutes, or a 10 to 1 increase in pumping time.

PUMPING TIME IN RELATION TO DIP-STICK DIAMETER

Pumping time is substantially inverse to the cross sectional area of the dip-stick adapter. Therefore, the 5/16 inch straight adapter will require less pumping time than the flat, 1/4 inch or flexible adapters. The flow time through the dip-stick adapters is in the following order: 5/16, flat, 1/4 and flexible. The 5/16 adapter being only slightly faster than the flat but better than twice as fast as the 1/4 inch, and the 1/4 inch is about 10 per-cent faster than the flexible.

EFFECT OF SLUDGE IN CRANKCASE

Sludge in the bottom of the crankcase pan, whether in the form of thin jelly or flakes and chunks, has the effect of slowing down the flow simulating the effect of a highly viscous liquid, thus causing very slow pumping.

On some engines which have not had the benefit of regular oil drains and occasional flushing, the end of the dip-stick may become totally, or partially, sealed when pushed to the bottom of the crankcase. This condition will completely stop or greatly reduce the flow of oil through the dip-stick adapter. This acute condition should be called to the vehicle owners attention with the recommendation to have the crankcase pan removed and cleaned. Excessive sludge in the crankcase will cause sticking valves and poor engine performance. Therefore, the Oil Changer is a very valuable tool for locating this condition.

CHECKING OIL LEVEL

After draining and filling the crankcase with the required quantity of oil, the crankcase dip-stick should always be checked for proper oil level. This will insure that the proper quantity of new oil has been placed in the crankcase. Ordinarily, an extra quart of oil is required when an oil filter element has been replaced. Starting the engine and allowing the oil to circulate a minute or two is required before being able to determine the correct oil level after a draining operation.

IMPORTANT INFORMATION - (CONTINUED)

COLD WEATHER OPERATION

During cold weather the oil in the crankcase as well as the oil in the Oil Changer sump tank and oil pump is slower moving than during warm weather. Cold oil or heavy oil requires more power to pump than is required to pump light or warm oil. Therefore, during cold weather before draining either the crankcase or sump tank it is advisable to operate the pump to clear it of cold oil. Do not attempt to pump cold, heavy oil with the Oil Changer as this may overload and damage the motor.

MAINTENANCE INFORMATION

VIZ-U-LATOR BOWL GASKET AND FILTER SCREEN

The filter screen in the VIZ-U-LATOR catches abrasive foreign matter that might be contained in the used drain oil and prevents damage to the pump. Always keep the filter screen clean, DO NOT OPERATE THE OIL CHANGER WITH THE FILTER SCREEN REMOVED. Trim off any loose ends of the screen mesh which would prevent the screen from lying flat in the recess provided for it below the gasket.
ANY LEAKAGE AT THE BOWL CAUSED BY A FRAYED SCREEN OR LOOSE BOWL WILL CAUSE A DECREASE IN THE EFFICIENCY OF THE OIL CHANGER RESULTING IN A LOSS OF VACUUM.

TESTING OIL CHANGER VACUUM

Proper operation of the Oil Changer can be checked by attaching a vacuum gauge to the drain tube dip-stick adapter. Turn switch to the ON position. VACUUM SHOULD READ 20 INCHES OR MORE. If less, check VIZ-U-LATOR bowl gasket, screen, quick connector, dip-stick adapter and hose connections at the pump and selector valve for leakage.

CLEANING THE MODEL H-80 SUMP TANK

The sump tank may be removed for cleaning by removing back panel from cabinet and disconnecting the float rod connector. After removing tank from cabinet, remove float attached to top of tank with screws to gain access to inside of tank for cleaning. Under no circumstances, use gasoline or other inflammable fluid for cleaning the sump tank as their fumes are highly explosive.

MOTOR LUBRICATION

The motor is properly lubricated at the time of shipment from the factory. Every three months, the motor should be oiled through the two oil holes on the motor bearings, using SAE 10 motor oil.

CLEANING THE OIL CHANGER

Use only soap and water for cleaning the Oil Changer cabinet. Under no circumstances use gasoline or other inflammable fluid for cleaning the Oil Changer or sump tank as their fumes are highly explosive.

QUESTION AND ANSWERS PERTAINING TO THE ALLEN OIL CHANGER

Q. Will it remove oil from all makes of cars?

A. It will remove oil from most engines which employ a dip-stick for measuring the oil level. It is safe to assume that it will remove the oil from over 97 per cent of all makes and models of cars. At the present time, we do not know of any engine that cannot be drained with the Oil Changer with the exception of a few old models which did not employ a dip-stick.

Q. Will it remove as much oil as when removing the drain plug?

A. A slight amount of additional oil will drain from the drain plug for an hour or so after the drain plug has been removed. Regardless of the method of draining, a quart or more of oil is left in the engine and oil filter. It would be impossible to remove all this oil from the engine without completely dis-assembling the engine and washing each part with an oil solvent. Any additional oil left in the engine after draining with the Oil Changer is small compared to the oil normally left in the engine when the drain plug is removed.

Q. Will you have to jack up front or rear of some cars to remove the old oil?

A. We do not know of any cars where this procedure would be necessary. The car should be level when draining the oil regardless of the method used.

Q. Where is the best place to locate the Oil Changer?

A. A good location is around the air tower where the station operator completes his job by checking tires and refilling the battery and radiator.

Q. Will the Allen Oil Changer pick up particles of broken bearings and sludge that may be in oil pan?

A. Hardened sludge or foreign matter not suspended in the oil can only be removed by removing the oil pan and thoroughly cleaning. The Oil Changer by the virtue of forcefully pulling out the oil effectively removes the foreign matter in suspension in the oil. Loose particles of bearings and steel slivers removed by the Oil Changer are trapped by the VIZ-U-LATOR filter screen for inspection by the customer. Some operators save the larger pieces of foreign matter that is removed by the Oil Changer to show prospective customers how the Oil Changer operates to save them future repair bills and to sell oil filters and cartridges.

Q. Will foreign matter removed by the Oil Changer cause trouble by jamming pump or plugging screen?

A. Foreign matter is trapped in the VIZ-U-LATOR bowl and cannot reach the pump or other mechanism in the Oil Changer. The VIZ-U-LATOR screen is easily removable for cleaning or replacement.

QUESTION AND ANSWERS PERTAINING TO THE ALLEN OIL CHANGER (CONTINUED)

Q. Will it block your pump island to gas and oil customers while you use the machine?

A. The Oil Changer will change the oil in about three minutes while filling the gas tank and cleaning the windows, or if located near the air tower will do the whole job while checking the tires and adding water to the radiator and battery.

Q. Will the Oil Changer make a repeat customer?

A. Yes, customers like to see the condition of the old oil while it is being removed. The customer does not have to get out of his car or leave it to have the oil changed. Customers welcome this new, faster, cleaner and more thorough service.

Q. Will the Oil Changer increase business?

A. Use of the Oil Changer will increase oil sales and crankcase flushing jobs. Many owners have reported tripling their oil sales alone. Profits per oil change are increased by 20 minutes labor saved on each change. It keeps lifts and pits open for other work. It draws new customers who are potential prospects for everything you sell.

Allen Electric and Equipment Company
Kalamazoo, Michigan, U. S. A.